

Serial No. 10/673,027
60130-1894;02MRA0144

IN THE SPECIFICATION:

Please amend paragraph 23 on page 4 of the specification as follows:

Figure 1 also shows an optical detector 14. The detector 14 is placed at the front lower corner of the opening 4, which corresponds substantially to a fixing point of a rear view mirror. The detector 14 monitors a substantially vertical angular area or angular sector—18. The angular ~~sector~~area 18 covers a portion of the opening 4 delimited by the upper edge 10 on the one hand and a halfway line 18 coming from the detector 14 on the other. In other words, the optical detector 14 covers an area adjacent to the upper edge in the plane of the opening 4 or in the plane of the window 8. This is the area in which the pinching is to be detected; it is not necessary to detect the presence of an obstruction near the lower edge of the opening 4 because pinching does not occur in that area.

Please amend paragraph 24 on page 4 of the specification as follows:

The detector 14 can be configured so that a selected amount such as, for example, at least 200mm, is monitored by the detector 14 in the direction of the travel path of the window 8 before the window 8 reaches the upper edge 10. In one embodiment, the upper edge 10 is formed by a window seal in the example shown in Figure 1. The angle of the sector—18 then depends on the position of the detector 14. Another solution is to have the detector 14 see or watch the entire upper edge 10 of the opening 4. Two or more detectors may also be used instead of the single detector 14 shown in Figure 1.

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Please amend paragraph 26 on page 4 of the specification as follows:

The detector 14 may comprise a known CCD (charge-coupled device) sensor having a lens for focusing. The lens may have an optional filtering function. In either case, the lens is placed in the path of the light received by the CCD sensor. In this way, the detector 14 monitors the angular sector 18 in the manner explained above. The picture elements or pixels of the CCD sensor used as the detector 14 each provide information about a part of the upper edge 10. The position of a pixel represents a position along the upper edge 10. The intensity or brightness for a pixel represents the edge or the presence of an obstruction in this position. In fact, as explained below, the appearance of an obstruction causes a local variation in the brightness of the pixel corresponding to the obstruction's position. From this point of view, it is particularly advantageous for detecting human obstructions, such as the driver's hand, to use a charge-coupled sensor because such sensors are particularly sensitive to infrared light. The presence of a human obstruction therefore causes a significant increase in the brightness detected by the sensor. The presence of any other type of obstruction also causes a variation in the brightness detected. This may be an increase, as for a human obstruction, or a decrease if, for example, the obstruction absorbs light.

Please amend paragraph 33 on page 6 of the specification as follows:

This solution avoids any use of pattern recognition algorithms as suggested in US-A-6 154 149. As a result, the solution described above is both simpler and more reliable, insofar as it does not imply a priori knowledge of a pattern or the specific nature of the obstruction. Even if a pattern recognition program is used to identify the upper edge of the opening, this program can remain simple, as explained above. The solution is also simpler and more advantageous than the solution proposed in US-A-5 506 567 or US-A-5 955 854 because the invention allows, if desired, the entire upper edge 10 of the opening 4 to be monitored and not just a part of the upper edge 10 or discrete directions.

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Please amend paragraph 47 on page 10 of the specification as follows:

Figure 5 further shows a contactless detector 54. This contactless detector may be of the type discussed above in reference to Figures 1 to 4. For example, when the detector 54 identifies an obstruction in the path of the openable member, it sends an interruption command to the geared motor, as represented by the arrow 56 in Figure 5. The detector 14 directly detects that the obstruction is present; it can therefore be classified as a direct obstruction detector or direct detection circuit.

Please amend paragraph 50 on page 10 of the specification as follows:

This openable member position information is applied to the contactless detector 54 as shown by the halfway line~~arrow~~ 58 in Figure 5. It can therefore be used to improve the operation of the contactless detector, as the contactless detector can then take into account the openable member position according to one or more of the embodiments noted above.

Please amend paragraph 55 on page 12 of the specification as follows:

In another embodiment, the position information is used to choose one detection histogram out of several available histograms. Thus, in reference to the diagram in Figure 1, it can be seen that over the start of the travel of the window, at the angular sector between the halfway~~half~~ lines 18 and 58, the presence of the window does not change the way in which the detector 14 sees the upper edge 10. On the other hand, when the window 8 enters the area delimited by the upper edge 10 and the halfway~~half~~ line 58, the image of the window 8 can be superimposed locally on the image of the upper edge seen by the detector 14. The availability of position information enables the detector 14 to adjust the reference histogram as a result of the window's changed position. For example, the histogram variations caused by the presence of the openable member can be calculated or simulated and not taken into account in the detection. This amounts to modifying the reference histogram depending on the position.